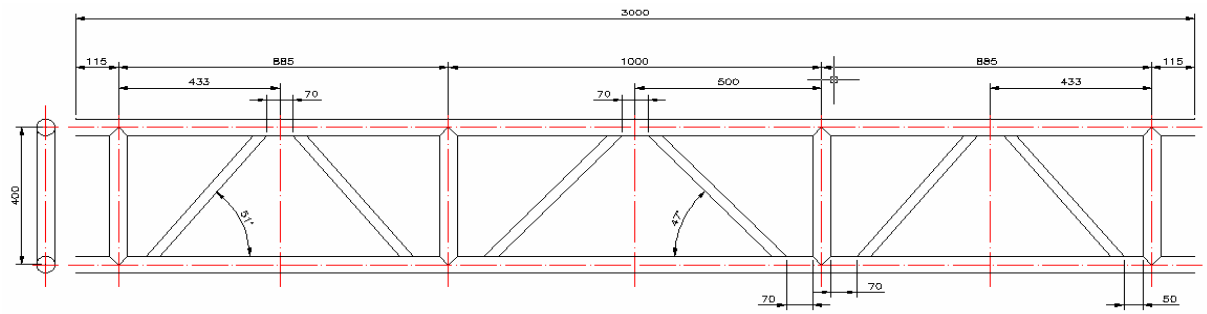
Scaffold & Construction Products

SCP - 40CM DEEP - STANDARD DUTY ALUMINIUM LATTICE BEAM
Safe Working Loads

1.0 Geometry and Materials



Element Cross-Sections: Upper Chord: CHS 48.3x4.1mm - Lower Chord: CHS 48.3x4.1mm - All Diagonals: CHS 28.0x2.8mm - All Struts: CHS 48.3x4.1mm

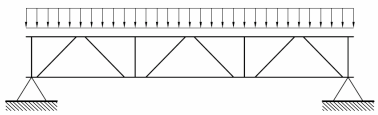
Material: 6082 T6 Alloy

2.0 Safe Load Tables

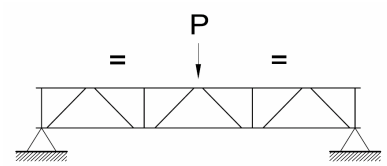
2.0 Safe Load Tables	Span (m)	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0	12.0
2.1 Compression Chord Bracing Interval =	**1.0m**									
i) Uniformly Distributed Load	**(kN/m)**	**7.20**	**4.96**	**3.77**	**3.04**	**2.50**	**2.08**	**1.68**	**1.31**	**0.89**
	Deflection (mm)	6	9	14	22	31	41	52	60	83
ii) Single Point Load Mid Span	**(kN)**	**13.74**	**13.02**	**10.49**	**9.28**	**7.22**	**7.20**	**5.97**	**5.85**	**4.9**
	Deflection (mm)	8	11	15	19	24	31	36	46	64
2.2 Compression Chord Bracing Interval =	**1.5m**									
i) Uniformly Distributed Load	**(kN/m)**	**7.42**	**4.67**	**3.41**	**2.18**	**1.68**	**1.23**	**0.98**	**0.77**	**0.51**
	Deflection (mm)	6	9	13	16	21	25	31	36	50
ii) Single Point Load Mid Span	**(kN)**	**11.06**	**8.67**	**6.93**	**5.95**	**4.98**	**4.49**	**3.94**	**3.58**	**2.95**
	Deflection (mm)	6	8	10	13	16	20	24	29	40
2.3 Compression Chord Bracing Interval =	**2.0m**									
i) Uniformly Distributed Load	**(kN/m)**	**7.41**	**3.44**	**2.42**	**1.57**	**1.18**	**0.87**	**0.68**	**0.54**	**0.35**
	Deflection (mm)	6	7	9	11	15	18	22	26	36
ii) Single Point Load Mid Span	**(kN)**	**8.53**	**6.50**	**5.18**	**4.37**	**3.79**	**3.25**	**2.92**	**2.57**	**2.08**
	Deflection (mm)	5	6	8	9	13	14	18	21	29

3.0 Load Locations

i) Uniformly Distributed Load



ii) Single Point Load Mid Span



4.0 Notes

These tables have been produced using the following design criteria:

a) The load capacities shown on the tables in section 2.0 are for guidance only.
b) All loads are unfactored safe imposed working loads applied vertically downwards to the top chord. No allowance has been made for dynamically applied loads.
c) Where a point load is applied between node points additional bending checks of the chord member will be required.
d) The load capacities quoted may be increased by 10% if the load acting on the beam are solely wind.
e) It has been assumed that the beam is simply supported at either end on the bottom chord.
f) Design has been carried out in accordance with the following Codes of Practice or British Standards:
- BS 8118 : Part 1 : 1991. Structural Use of Aluminium.
- BS 8118 : Part 2 : 1991. Specification for materials, workmanship and protection.
- BS 6399 : Part 1 : 1988. Loadings for Buildings - Code of Practice for Dead and Imposed Loads
g) The beam is fabricated from drawn tube sections described in section 1.0.
h) The structure has been analysed under the assumption that it is fabricated from 6082-T6 Aluminium alloy and has been welded together in accordance with BS 8118 : Part 1 :1991.
i) Adjoining trusses connected via SCP Spigot as outlined on drawing 5-220-UNI-SPIGOT with a minimum of 2no 12mm diameter grade 8.8 suitable connectors at each spigot to truss junction- i.e. 4 per connection in total.
j) The estimated deflection under the quoted safe load is given in section 2. Figures in boxes indicate the beam is limited by deflection rather than strength.
k) For further assistance contact the SCP technical department.